IEEE Transactions on Magnetics 1987 vol.23 N5, pages 2230-2232

Exchange narrowing of dipolar broadened epr lines in superconductors

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Abstract

The exchange narrowing of dipolar broadened paramagnetic resonance (EPR) lines by the long range exchange interaction is considered. That is the actual situation. in magnetically diluted superconducting alloys, where a sharp decrease of the EPR linewidth under the superconducting transition was observed. These calculations show that the EPR linewidth drop below the superconducting transition temperature is a clear indication of the long wave-length electronic susceptibility decreasing in the superconducting state. © 1987 IEEE

http://dx.doi.org/10.1109/TMAG.1987.1065602